

Power Management Circuit

The diagram illustrates a power management circuit. It includes a 3.3V POWER source connected to a TLV76133DCVR voltage regulator. The regulator's GND (OUT_L) and IN pins are connected to a common ground. The OUT_2 pin is connected to VDD33. A 1µF capacitor (C6) is connected between the IN pin and ground. A 3.3V POWER source is also connected to a Power Switch (J520201TSCQK) which has four pins: 4, 3, 2, and 1. Pins 4 and 3 are connected to VCC, and pins 2 and 1 are connected to a common ground. A 1µF capacitor (C7) is connected between the common ground and ground. The VDD33 line is connected to a LEDP (APF3012CCK) LED through a current-limiting resistor network consisting of R331 (510Ω) and R332 (510Ω). The LED is connected to ground.

GPS Circuit

The diagram illustrates the electrical connections between a GPS module and an L80-M49 module. The GPS module is represented by a yellow box with pins 1 through 7. It includes a DTFmer, DGPSIN, and a GPS POWER SWITCH. The L80-M49 module is represented by a yellow box with pins 1 through 12. It includes a TIMER, AANTET_N, RESET, EX_ANT, TXDI, and RXDI. The connections are as follows:

- VDDI3** (red label) is connected to the **VCC** pin of the L80-M49 module and the **VIN** pin of the GPS POWER SWITCH.
- GPS** (red label) is connected to the **GPS** pin of the GPS module and the **GPS** pin of the L80-M49 module.
- GPSIN** (red label) is connected to the **DGPSIN** pin of the GPS module.
- GPS POWER SWITCH** (yellow box) has pins **A1**, **B1**, **A2**, **B2**, **VIN**, **VOUT**, **EN**, and **RD**. It is connected to **VDDI3** at **VIN** and **RD**, and to **GPS** at **A1** and **B1**.
- L80-M49** (yellow box) has pins **1** through **12**. It is connected to **VDDI3** at **VCC** and **12**, and to **GPS** at **GPS** and **11**.
- Capacitors** **C11** (100nF) and **C13** (100uF) are connected between **VDDI3** and **GND**.

[illegible]

SWD Port Circuit

[illegible]

The diagram illustrates a simple PWM LED driver circuit. A red line, labeled 'PWLLED', represents the PWM signal source. This signal is connected to the anode (pin 1) of an LED. The LED's cathode (pin 2) is connected to a common ground (GND), which is also the ground for the microcontroller. The LED is identified by the text 'PWLLED' and 'LR_T67F-U1AA-1-1-Z'.

1. GPS module will be using a UART interface and the IMU will be using an SPI interface
2. IMU has pre-loaded Bosch Firmware in it, recommended to use bosch api to access information
3. Will be using existing CMSIS Drivers and software for the board through keil